

ABSTRACT

A voltage-controlled oscillator includes a voltage-controlled phase-shift circuit for outputting a signal in which the phase of an input signal is shifted by a predetermined amount in accordance with an external control voltage; a plurality of SAW resonators, each of which resonates at a predetermined resonance frequency; switching means for selecting one of the plurality of SAW resonators in accordance with the external control signal; frequency selection means for selecting a predetermined resonance frequency from the selected SAW resonator; an oscillation differential amplifier for amplifying the resonance signal of the predetermined resonance frequency; and a feedback-buffer differential amplifier for inputting the output signal from the oscillation differential amplifier, wherein the voltage-controlled phase-shift circuit, the selected SAW resonator, the frequency selection means, the oscillation differential amplifier, and the feedback-buffer differential amplifier form a positive-feedback oscillation loop.